Westbourne House School
Revision – Christmas Term

Y8 MATHS REVISION CHECKLIST

The Exam(s) will consist of:

- Two papers:
  - Paper 1: Non-calculator Paper – duration 60 minutes
  - Paper 2: Calculator Paper – duration 60 minutes
  - Paper 3: Maths Aural – duration 20 minutes (paper is done during a maths lesson)

Equipment you will need for the exam:

- Ruler (15cm and 30cm)
- Pencil
- Eraser and pencil sharpener
- Scientific Calculator (for Paper 2 only)
- Compass
- Protractor

TOPIC / PAPER	WHAT TO REVISE	DONE?

Paper 1
 	
Non-calculator Paper
	• Calculations (including with decimals) - add, subtract, multiply and divide
	• Reverse calculations
	  ○ i.e. if 135 x 46 = 6210, what is 621 ÷ 46 =
	• Fractions <-> decimals <-> percentages
	• Decimal calculations
	• Percentages
	  ○ percentage of an amount
	  ○ increasing and decreasing an amount by a percentage
	• Fractions
	  ○ of an amount
	  ○ adding/subtracting/multiplying and dividing
	• BIDMAS
	• Product of prime factors (cherry trees)
	• Sequences
	• Algebra
	  ○ Substitution
	  ○ Equations
	• Probability	

Paper 2
 	
Calculator Paper
	• Rounding - significant figures and decimal places
	• Ratio
	• Percentage
	  ○ profit and loss
	• Speed/Distance/Time
	• Algebra
	  ○ Simplify
	  ○ multiply out brackets
	  ○ factorise
	  ○ wordy algebra questions
	• Conversions ie. 1 inch = 2.54 cm, 1 foot = 12 inches, what is 21 feet in metres?
	• Area of rectangles and triangles	

Paper 3 Maths Aural	• Exam taken in classroom under exam conditions. • Questions are read out by the teacher and pupils are allowed to show their workings. • No calculators to be used.	

NOTES/TIPS:

- Revise by practising the questions below, using your notes books and appropriate websites like www.mymaths.co.uk
- Most topics can come up in either or both papers; however, normally the topics listed above are on each paper
- On the Calculator Paper the topics are more "wordy" and require more problem solving
- For any further information or guidance about revision or the actual exam, please contact the Head of Maths – Mrs Barbara Langford (blangford@westbournehouse.org)

Practice Questions – Non-calculator Paper:

Calculations (including with decimals) - add, subtract, multiply and divide

1. Sebastian bought 8 bargain DVDs which each cost £3.75, how much did he pay altogether?

2. A pen costs £3.99 and a book £4.99. How much are two books and a pen?

3. If I pay for a jumper costing £34.56 and had over a £50 note, how much change would I expect?

4. If a dozen eggs cost £1.68, how much is one egg worth?

Reverse Calculations

5. If 135 x 46 = 6210,

   a) what does 621 ÷ 46 =

   b) what does 13.5 x 4.6 =

   c) what does 6210 ÷ 13.5 =

Fractions <-> decimals <-> percentages

6. Write 48% as a fraction in its lowest terms

7. Write 7/25 as a decimal

8. What is 3/5 as a percentage

Percentages

9. James eats 55% of a bunch of 400 grapes. How many grapes does he eat?

10. Jane makes a coffee table for £30. She sells it, making a profit of 15%.
    How much does she sell it for?

11. A jacket is reduced by 22% in a sale. Originally it cost £45.00. How much is it in the sale?

Fractions

12. There are 24 tins of dog food. Jake eats 3/8 of them. How many tins does he eat?

13. Evaluate:

$\frac{3}{4} \times \frac{8}{9}$

$\frac{1}{3} + \frac{5}{6}$

$\frac{1}{3} + \frac{3}{4}$

$2\frac{3}{4} - \frac{1}{3}$

14. Bob eats 5/6 of a tin of spaghetti a day.

a) How long does it take him to eat 25 tins of food?

b) How many tins will he eat in 24 days?

BIDMAS

15. 3 – 5 + 8

16. 3 + 4 x 5

17. $64 - (3 + 8) \times 2^2$

Prime factors (cherry trees)

18

a) Write 180 as the product of prime factors.

b) What is the smallest number you can multiply 180 by to make a perfect square?

c) What is the highest odd factor of 180?

Sequences

19 If a sequence starts 5, 8, 11, 14 .....

a) what are the next 3 terms?

b) what would the 15th term be?

Algebra

20 If a = 2, b = -3 and c = 5 (substitute the values)

a) 3a + c =

b) $3c + b^2$ =

c) a – b =

21 Solve the following equations:

a) 3a = 9

b) 4x = 2

c) 4x + 5 = 17

d) 3x + 2 = x + 12

e) 4(x + 5) = 38

Probability

22 A number is chosen at random from the integers 21 to 40 inclusive.

a) What is the probability that it is prime?

b) What is the probability that it is an even multiple of 3?

Practice Questions – Calculator Paper:

Rounding - significant figures and decimal places

1.
   a) Round each of the values to 1 significant figures and estimate the answer:

$$\frac{29.7 \times 6.2}{2.95}$$

   b) Using your calculator find the exact value of the same equation (as above)

   c) Write your answer to 2 decimal places

   d) Write your answer to 3 significant figures

Ratio

2. Sweets are shared between Morag and Hamish in the ratio 2:5
   a) If Morag receives 8 sweets how many does Hamish receive?

   b) If there is a total of 56 sweets, how many do they each get?

   c) If Hamish gets 9 more sweets than Morag how many did they start with?

Percentage - profit and loss

3. A train season ticket costs £200. Next year it will cost £235. What is the percentage increase?

Speed/Distance/Time

4. Gemma can run 200m in 36 seconds. What is this in kilometres per hour?

5. A car travels at 72 kilometre per hour.
   a) How far would it travel in 2.5 hours?

   b) How long would it take to travel 684 kilometres?

   c) How fast is this in metres per second?

Algebra

6. Simplify:
   a) $3a - 6b + 5a + 8b$

   b) $5a^2 \times 6ab$

7. Multiply out brackets and simplify where necessary:
   a) $3(x + 4)$

   b) $3 + 7(2x - 5)$

   c) $4 - 2(x - 6)$

8. Factorise:
   a) $4x + 8$

   b) $ab + 3a$

   c) $2c^2 + 4cd$

9. 'Wordy' algebra questions:

   Sam thought of a number which he calls x.

   a) Rosie has a number which is 3 smaller than Sam's. Write down an expression for Rosie's number

   b) John has a number which is 4 times as big as Sam's. Write down an expression for John's number

   c) Together, Sam, Rosie and John have a total of 17. Write down an equation and solve it to find out what Sam's number is.

Conversions

10. 1 inch = 2.54 cm, 1 foot = 12 inches,

    a) What is 21 feet in metres?

    b) What is 13 cm in inches?

Decimal Calculations:

11. $18 \times 0.3 =$

12. 18 ÷ 0.3 =